

1. A method of encoding video pictures comprising the steps of:
  - dividing the picture into regions;
  - predicting whether each region requires processing
- 5 through further steps, said predicting step comprising comparing one or more statistical measures with one or more threshold values for each region.
- 10 2. A method as claimed in claim 1, wherein the further steps include motion estimation.
3. A method as claimed in claim 1 wherein the further steps include transform processing.
- 15 4. A method as claimed in claim 3, wherein the transform processing step is a discrete cosine transform processing step.
- 20 5. A method as claimed in claim 1, wherein a region is a non-overlapping macroblock.
6. A method as claimed in claim 5, wherein a macroblock is a sixteen by sixteen matrix of pixels.
- 25 7. A method as claimed in claim 5, wherein one of the statistical measures is whether an estimate of the energy of some or all pixel values of the macroblock is less than a first predetermined threshold value.
- 30 8. A method as claimed in claim 7, wherein the estimate of energy is divided by a quantizer step size before being compared to the first threshold value.

9. A method as claimed in claim 7, wherein one of the statistical measures is whether an estimate of the values of certain discrete cosine transform coefficients for one or more sub-blocks of the macroblock, is less than a second predetermined threshold value.

10. A method as claimed in claim 9, wherein the estimate of the values of certain discrete cosine transform coefficients comprises:

dividing the sub-blocks into four equal sub-regions;

calculating a sum of absolute differences of residual pixel values for each sub-region of the sub-block, where the residual pixel value is a corresponding previously coded pixel luminance value subtracted from a corresponding pixel luminance value of the macroblock;

estimating the low frequency discrete cosine transform coefficients for each region of the sub-blocks, such that:

$$Y_{01} = \text{abs}(A+C-B-D)$$

$$Y_{10} = \text{abs}(A+B-C-D)$$

$$Y_{11} = \text{abs}(A+D-B-C)$$

where  $Y_{01}$ ,  $Y_{10}$  and  $Y_{11}$  represent the estimations of three low frequency discrete cosine transform coefficients and A, B, C and D represent the sum of absolute differences of each of the regions of the sub-block where A is the top left hand corner, B is the top right hand corner, C is the bottom left hand corner and D is the bottom right hand corner; and

selecting the maximum value of the estimate of the discrete cosine transform coefficients from all the estimates calculated.

11. A method as claimed in claim 5, wherein one of the statistical measures is whether an estimate of distortion due to skipping the macroblock is less than a third predetermined threshold value.
12. A method as claimed in claim 11, wherein the estimate of distortion is calculated by deriving one or more statistical measures from some or all pixel values of one or more previously coded macroblocks with respect to the macroblock.
13. A method as claimed in claim 11, wherein, the estimate of distortion is calculated by subtracting an estimate of the sum of absolute differences of luminance values of a coded macroblock with respect to a previously coded macroblock ( $SAE_{noskip}$ ) from the sum of absolute differences of luminance values of a skipped macroblock with respect to a previously coded macroblock ( $SAE_{skip}$ ).
14. A method as claimed in claim 13, wherein  $SAE_{noskip}$  is estimated by a constant value K.
15. A method as claimed in claim 13, wherein  $SAE_{noskip}$  is estimated by the sum of absolute differences of luminance values of a previously coded macroblock or if there is no previously coded macroblock by a constant value K.
16. A method of encoding pictures, as claimed in claim 1, performed by a computer program embodied on a computer usable medium.